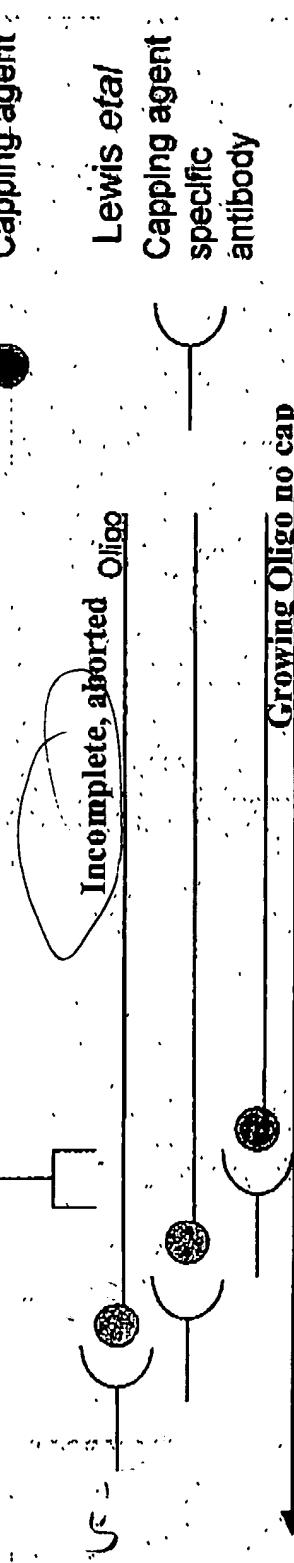


Capping and Protecting Group Technical Definitions

CAPPING

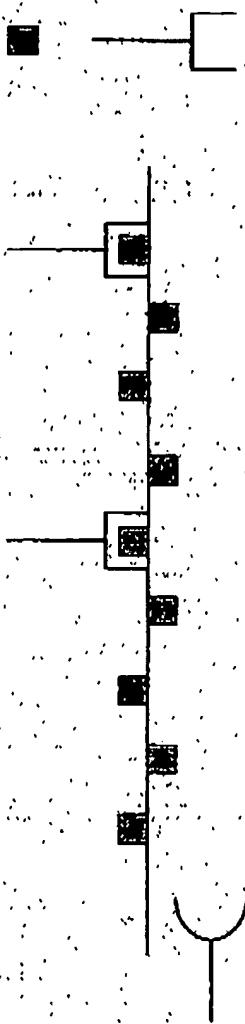
Capping agent blocks growing 3'-end of oligo in case of incomplete base addition during synthesis. Presence of capping agent in final oligo preparation doesn't relate to sidechain protecting group removal.

**Permanent
Capping agent:**

Lewis et al/
Capping agent
specific
antibody

**Removable
Protecting group**

Agris et al/
Protecting group
specific antibody

PROTECTING

Protecting groups block incorrect addition of bases on reactive sidechains of oligo during synthesis. Antibodies specific for capping group do not bind protecting groups and cannot detect impurities in oligonucleotide preparations with incomplete removal of sidechain protecting groups prior to use for synthesis.

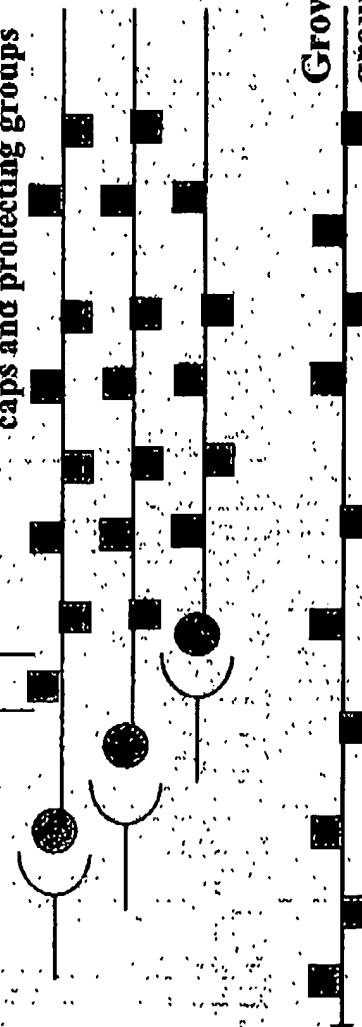
1 OF 2

S. Sherry Satory

) Lewis et al. vs. Agris et al.

Lewis et al. uses the permanent capping groups on incomplete, aborted sequences

Incomplete, aborted oligos have caps and protecting groups



Permanent
Capping-agent

Lewis et al.
Capping agent
specific
antibody

Growing Oligo has protecting
groups, but, no cap

Agris et al. uses the few protecting groups remaining after deprotection. Protecting groups block biological function. Caps do not.

Removable
Protecting group

Agris et al.
Protecting group
specific antibody

**Full length oligo after
deprotecting has some remaining
protecting groups, but no cap**

has capsule & very lit
seq

2 OF 2

not come off wafer